CHAPTER 2
DESCRIPTIONS OF ALTERNATIVES

2.1 INTRODUCTION

This chapter summarizes the long-term water service contract negotiations process and descriptions of the alternatives considered in this EA.

2.2 LONG-TERM WATER SERVICE CONTRACT NEGOTIATIONS PROCESS

The CVPIA states that the Secretary shall, upon request, renew any existing long-term irrigation repayment or water service contract for the delivery of CVP water for a period of 25 years and may renew such contracts for successive periods of up to 25 years each. Consistent with the 1963 Act, M&I contracts shall be renewed for successive periods of up to 40 years each under terms and conditions that are mutually agreeable. The CVPIA also states that no renewals shall be authorized until appropriate environmental review, including the PEIS, has been completed. The PEIS provided a programmatic environmental analysis of the effects of the CVPIA and identified the need for site-specific environmental documents for the long-term contract renewal process.

The CVPIA also stated that contracts that expire prior to the completion of the PEIS may be renewed for interim periods. The interim renewal contracts reflect existing Reclamation law, including modifications due to the Reclamation Reform Act and applicable CVPIA requirements. The initial interim contract renewals were negotiated in 1994, with subsequent renewals for periods of two years or less to provide for continued water service. Many of the provisions included in the interim contracts are based on the provisions described under the Preferred Alternative in the PEIS. The CVPIA PEIS assumes that these provisions would be part of the long-term renewal contracts.

In 1998, the long-term contract renewal process was initiated. ~~After Reclamation reviewed the interim contract provisions that were consistent with Reclamation law and other requirements, comments on the Draft PEIS, and comments obtained during the interim contract renewal process,~~ Reclamation proposed a three-stage negotiating process for the long-term contracts. The first stage would consist of negotiating the provisions that would be included in all the long-term contracts. Those overall provisions of the long-term contract would be negotiated with representatives of all CVP water service Contractors. Following the acceptance of the CVP-wide provisions, Reclamation proposed that division-specific provisions and, finally, Contractor-specific provisions would be negotiated~~. Reclamation also proposed that water service~~ with representatives of all CVP water service contractors ~~contracts~~ for all districts except for the Central San Joaquin Irrigation District, Stockton East Water District, ~~and Colusa Drain Mutual Water Company~~ would be renewed using this process. Contract renewals for these ~~three~~ districts would be delayed until the completion of water management studies for their primary sources of CVP water, the Stanislaus River and the Sacramento River.

Reclamation published the initial proposed contract in November 1999. There were numerous negotiations sessions throughout the next four years. The November 1999 contract would become the set of conditions for "one bookend" representing Alternative 2 of this environmental assessment. The CVP water service Contractors published a counter-proposal in April 2000 that would become the basis of negotiations (the other "bookend") and, eventually, Alternative 1 of this environmental assessment. The primary differences between the two "bookends" are summarized in Table 2-1. [In May 2003, Reclamation prepared draft revised conditions as a counter offer to the April 2000 proposal. Appendix A summarizes the conditions of the May 2003 proposal.]

2.3 ISSUES CONSIDERED AS PART OF LONG-TERM CONTRACT RENEWALS

The long-term contract renewal process addressed several other issues in addition to the contract provisions. These issues include the needs analyses, changes in service areas, and water transfers.

2.3.1 NEEDS ANALYSIS

The water rights granted to the CVP by the State Water Resources Control Board (SWRCB) require the Federal government to determine that the water is being used in a beneficial manner. The Contractors have asserted that compliance with state laws and permits is the basis of the right to the continued beneficial use of water provided under the contracts. The needs analysis methodology was developed to confirm whether the CVP water is being used beneficially. The needs analysis was computed for each District within the various divisions or units of the CVP using a multiple-step approach. First, the existing water demand was calculated for each district. For agricultural Contractors, crop acreage, cropping patterns, crop water needs, effective precipitation, and conveyance losses were reviewed. For M&I Contractors, residential, commercial, industrial, institutional, recreational, and environmental uses; landscape coefficients; system losses; and landscape acreage were reviewed. Second, future changes in water demands based upon crops, municipal and industrial expansion, and changes in efficiencies were reviewed. Third, existing and future non-CVP water supplies were identified for each district, including groundwater and other surface water supplies. The initial calculation of CVP water needs was limited by the assumption that groundwater pumping would not exceed the safe yield of an aquifer. In addition, the actual water needs were calculated at each division or unit level to allow for intra-regional transfers on an annual basis.

Beneficial and efficient future water demands were identified for each district. The demands were compared to available non-CVP water supplies to determine the need for CVP water. If the need was less than contract amounts, the CVP water service contract amount could be reduced. Because the CVP was initially established as a supplemental water supply for areas without adequate supplies, the needs for most districts are at least equal to the CVP water service contract and frequently exceeded the previous contract amount. However, this environmental analysis does not include increased total contract amounts. Therefore, the CVP contract amount will be limited by the existing CVP contract quantity.

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	No Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal
Explanatory Recitals	Assumes water rights held by CVP from SWRCB for use by water service contractors under CVP policies	Assumes CVP Water Rights as being held in trust for project beneficiaries that may become the owners of the perpetual rights.	Same as No Action Alternative
	Assumes that CVP is a significant part of the urban and agricultural water supply	Assumes CVP is a significant, essential, and irreplaceable part of the urban and agricultural water supply of users	Same as No Action Alternative
		Assumes increased use of water rights, need to meet water quality standards and fish protection measures, and other measures constrained use of CVP	Assumes that CVPIA impaired ability of CVP to deliver water
	Assumes the need for the 3408(j) study	Assumes implementation of yield increase projects per 3408(j) study	Same as No Action Alternative
	Assumes that loss of water supply reliability would have impact on socioeconomic conditions and change land use	Assumes that loss of water supply reliability would have significant adverse socioeconomic and environmental impacts in CVP service area	Same as No Action Alternative
Definitions			
"Charges"	Charges defined as payments required in addition to Rates	Assumes rewording of definition of Charges to exclude both Rates and Tiered Pricing Increments	Same as No Action Alternative
"Category 1 and Category 2"	Tiered Pricing as in PEIS	Not Included (Assumed to be the same as No Action Alternative)	Tiered Pricing for Categories 1 and 2
"Contract Total"	Contract Total described as Total Contract	Same as No Action Alternative	Described as basis for Category 1 to calculate Tiered Pricing

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	No Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal
"Landholder"	Landholder described in existing Reclamation Law	Assumes rewording to specifically define Landholder with respect to ownership, leases, and operations	Assumes rewording to specifically define Landholder with respect to ownership and leases
"M&I Water"	Assumes rewording to provide water for irrigation of land in units less than or equal to 5 acres as M&I water unless Contracting Officer is satisfied use is for irrigation	M&I water described for irrigation of land in units less than or equal to 2 acres	Same as No Action Alternative
Terms of Contract – Right to Use Contract	Assumes that contracts may be renewed	States that contract shall be renewed	Same as No Action Alternative
	Assumes convertibility of contract to a 9(d) contract as in existing contracts	Includes conditions that are related to negotiations of the terms and costs associated with conversion to a 9(d) contract	Same as No Action Alternative
Water to Be Made Available and Delivered to the Contractor	Assumes water availability in any existing condition	Similar to No-Action Alternative	Actual water availability in year is unaffected by Categories 1 and 2.
	Assumes compliance with Biological Opinions and other environmental documents for contracting	Not included	Same as No Action Alternative
	Assumes that current operating policies strive to minimize impacts to CVP water users	Assumes that CVP operations will be conducted in a manner to minimize shortages and studies to increase yield shall be completed with necessary authorizations	Same as No Action Alternative
Time for Delivery of Water	Assumes methods for determining timing of deliveries as in existing contracts	Assumes minor changes related to timing of submittal of schedule	Same as No Action Alternative

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	No Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal
Point of Diversion and Responsibility for Distribution of Water	Assumes methods for determining point of diversion as in existing contracts	Assumes minor changes related to reporting	Same as No Action Alternative
Measurement of Water Within District	Assumes measurement for each turnout or connection for facilities that are used to deliver CVP water as well as other water supplies	Assumes measurement at delivery points	Assumes measurement similar to No Action Alternative but applies to all water supplies
Rates and Method of Payment for Water	Assumes Tiered Pricing is for total water quantity. Assumes ~~advanced~~ payment of ~~for~~ rates ~~for~~ 2 months in advance.	Assumes Tiered Pricing is for total water quantity. Assumes advanced payment for rates for 1 month.	Assumes Tiered Pricing is for total water quantity. Assumes advance payment for rates for 6 months.
Non-interest Bearing Operation and Maintenance Deficits	Assumes language from existing contracts	Same as No Action Alternative	Same as No Action Alternative
Sales, Transfers, or Exchanges of Water	Assumes continuation of transfers, with the rate for transferred water being the higher of the sellers' or purchasers' CVP cost of service rate	Assumes continuation of transfers, with the rate for transferred water being the purchasers' CVP cost of service rate	Same as No Action Alternative
Application of Payments and Adjustments	Assumes payments will be applied as in existing contracts	Assumes minor changes associated with methods described for overpayment	Same as No Action Alternative
Temporary Reduction – Return Flows	Assumes that current operating policies strive to minimize impacts to CVP water users	Assumes minor changes associated with methods described for discontinuance or reduction of payment obligations	Same as No Action Alternative
Constraints on Availability of Project Water	Assumes that current operating policies strive to minimize impacts to CVP water users	Assumes Contractors do not consent to future Congressional enactments which may impact water supply reliability	Same as No Action Alternative
Unavoidable Groundwater Percolation	Assumes that some of applied CVP water will percolate to groundwater	Same as No Action Alternative	Same as No Action Alternative

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	No Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal
Rules and Regulations	Assumes that CVP will operate in accordance with then existing rules	Assumes minor changes with right to non-concur with future enactments retained by Contractors	Same as No Action Alternative
Water and Air Pollution Control	Assumes that CVP will operate in accordance with then existing rules	Same as No Action Alternative	Same as No Action Alternative
Quality of Water	Assumes that CVP will operate in accordance with existing rules without obligation to operate towards water quality goals	Same as No Action Alternative	Same as No Action Alternative
Water Acquired by the Contractor Other than from the United States	Assumes that CVP will operate in accordance with existing rules	Assumes changes associated with payment following repayment of funds	Same as No Action Alternative
Opinions and Determinations	Recognizes that CVP will operate in accordance with existing rules	Assumes minor changes with respect to references to the right to seek relief	Same as No Action Alternative
Coordination and Cooperation	Not included	Assumes that coordination and cooperation between CVP operations and users should be implemented and CVP users should participate in CVP operational decisions	Not included
Charges for Delinquent Payments	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative
Equal Opportunity	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative
General Obligation	Assumes that CVP will operate in accordance with existing rules	Similar to No Action Alternative	Same as No Action Alternative
Compliance with Civil Rights Laws and Regulations	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	No Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal
Privacy Act Compliance	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative
Contractor to Pay Certain Miscellaneous Costs	Assumes that CVP will operate in accordance with existing rules	Similar to No Action Alternative	Same as No Action Alternative
Water Conservation	Assumes compliance with conservation programs established by Reclamation and the State	Assumes conditions similar to No Action Alternative with the ability to use State standards which may or may not be identical to Reclamation's requirements	Same as No Action Alternative
Existing or Acquired Water or Water Rights	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative
Operation and Maintenance by Non-federal Entity	Assumes that CVP will operate in accordance with existing rules and no additional changes to operation responsibilities under this alternative	Assumes minor changes to language that would allow subsequent modification of operational responsibilities	Assumes minor changes to language that would allow subsequent modification of operational responsibilities
Contingent on Appropriation or Allotment of Funds	Assumes that CVP will operate in accordance with existing rules	Assumes minor changes to language	Same as No Action Alternative
Books, Records, and Reports	Assumes that CVP will operate in accordance with existing rules	Assumes changes for record keeping for both CVP operations and CVP users	Same as No Action Alternative
Assignment Limited	Assumes that CVP will operate in accordance with existing rules	Assumes changes to facilitate assignments	Same as No Action Alternative
Severability	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative
Resolution of Disputes	Not included	Assumes a Dispute Resolution Process	Not included
Officials Not to Benefit	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative

TABLE 2-1
COMPARISON OF CONTRACT PROVISIONS CONSIDERED IN ALTERNATIVES

Provision	No Action Alternative Based on PEIS and Interim Contracts	Alternative 1 Based on April 2000 Proposal	Alternative 2 Based on November 1999 Proposal
Changes in Contractor's Service Area	Assumes no change in CVP water service areas absent Contracting Officer consent	Assumes changes to limit rationale used for non-consent and sets time limit for assumed consent	Same as No Action Alternative
Notices	Assumes that CVP will operate in accordance with existing rules	Same as No Action Alternative	Same as No Action Alternative
Confirmation of Contract	Assumes Court confirmation of contract	Not included. Assumption is Court confirmation not required	Same as No Action Alternative

2.3.2 CHANGES IN WATER SERVICE AREAS

This environmental analysis does not consider future changes in water service area boundaries for use of CVP water. Any future changes to water service area boundaries for use of CVP water will be evaluated in separate technical and environmental analyses.

2.3.3 WATER TRANSFERS

Several different types of transfers are considered for long-term contract renewals. Intra-CVP contract transfers have occurred regularly throughout the CVP and are frequently limited to scheduling changes between adjoining districts. Reclamation has historically issued and will continue to address these types of transfers under separate environmental analyses.

It is recognized that water transfers will continue to occur and that the CVP long-term contracts will provide the mechanism. Because CVPIA has allowed these transfers, as evaluated in the PEIS for the Preferred Alternative, the No Action Alternative includes water transfer provisions. These provisions for transfers are also included in both Alternatives 1 and 2. However, it is difficult to identify all of the water transfer programs that could occur with CVP water in the next 25 years. Reclamation would continue with separate environmental documents for proposed transfers in establishing criteria and protocols to allow rapid technical and environmental review of future proposed transfers.

2.4 DEVELOPMENT OF ALTERNATIVES

Three alternatives were identified for analysis of the renewal of long-term contracts between Reclamation and Contractors in the Shasta and Trinity River Divisions. Another alternative, the final contractual language, was not specifically analyzed but any impacts attributable to it were within the analysis performed.

The alternatives present a range of water service agreement provisions that could be implemented for long-term contract renewals. The No Action Alternative consists of renewing existing water service contracts as described by the Preferred Alternative of the PEIS. In November 1999, Reclamation published a proposed long-term water service contract. In April 2000, the CVP Contractors presented an alternative long-term water service contract. Reclamation and the CVP Contractors continued to negotiate the CVP-wide terms and conditions with these proposals serving as "bookends," the final negotiated contract thus being between the "book ends". This EA also considers these proposals with the No Action Alternative as bookends to be considered for the environmental documentation to evaluate the impacts and benefits of the renewing long-term water service contracts. Chapter 4 describes environmental consequences in terms of incremental effects that would accrue due to implementing Alternative 1 or Alternative 2 as compared to the No- Action Alternative.

2.4.1 NO ACTION ALTERNATIVE

The No Action Alternative assumes renewal of long-term CVP water service contracts for a period of 25 years in accordance with implementation of CVPIA as described in the PEIS Preferred Alternative. The PEIS Preferred Action assumed that most contract provisions would be similar to many of the provisions in the 1997 CVP Interim Renewal Contracts, which included contract terms and conditions consistent

with applicable CVPIA requirements. In addition, the No Action Alternative assumes tiered pricing provisions and environmental commitments as described in the PEIS Preferred Alternative. The provisions of the No Action Alternative are summarized in Table 2-1. These provisions were described in the Final PEIS.

Several CVPIA provisions are summarized in the following descriptions for the No Action Alternative because these provisions differ from Alternatives 1 and/or 2. The provisions particularly relevant to the No Action Alternative include tiered water pricing, definition of M&I water, water measurement, and water conservation.

Tiered Water Pricing

Tiered water pricing in the No Action Alterative is based upon use of an "80/10/10 Tiered Water Pricing from Contract Rate to Full Cost" including appropriate Ability-to-Pay limitations. Under this approach, the first 80 percent of the maximum contract total would be priced at the applicable Contract Rate. The next 10 percent of the contract total would be priced at a rate equal to the average of the Contract Rate and Full Cost Rate. The final 10 percent of the contract total would be priced at Full Cost Rate. The terms "Contract Rate" and "Full Cost Rate" are defined by the CVP rate setting policies, and P.L. 99-546 and the Reclamation Reform Act (RRA), respectively. The Contract Rate for M&I water includes the Contractor's allocated share of CVP main project operations and maintenance (O&M), O&M deficit, if any, and capital cost. The Contract Rate for irrigation water does not include interest on capital. The Contract Rate for M&I water includes interest on capital computed at the CVP M&I interest rate. The Full Cost rate for irrigation and M&I water includes interest at the RRA interest rate.

In addition to the CVP water rate, Contractors are required to pay a Restoration ~~payment~~ charge on all deliveries of CVP water. Reclamation law and policy provide full or partial relief to irrigation Contractors on Restoration ~~Payments~~ charges and the capital rate component of the water rate. The relief could be up to 100 percent of the capital cost repayment and Restoration charge and is based upon local farm budgets. Ability-to-pay relief, relative to the irrigation water rate, is fully applicable only to the first 80 percent of the contract total. Ability-to-pay relief is not applicable to the third tier water rate. The second tier may reflect partial ability-to-pay relief, as it is equal to the average of the first and third tiers. ~~The relief could be up to 100 percent of the capital cost repayment and is based upon local farm budgets.~~ The Ability-to-Pay law and policy do not apply to CVP operation and maintenance costs, M&I water rates, CVP distribution facilities, or non-CVP water costs.

The ~~prices~~ rates for of CVP water used in the No Action Alternative are based upon 1994 irrigation and M&I CVP water rates.

Definition of Municipal and Industrial Users

The definition of municipal and industrial (M&I) users was established in portions of a 1982 Reclamation policy memorandum. In many instances, municipal users are easily definable. However, with respect to small tracts of land, the 1982 memorandum identified agricultural water as agricultural water service to tracts that can support $5,000 gross income for a commercial farm operation. The memorandum (United States Department of the Interior, 2000*)* indicates that this criterion can generally be met by parcels larger

than 2 acres. Based on this analysis, the CVP has generally applied a definition of 5 acres or less for M&I uses in the CVP for many years. The CVP Contractors can request a modification for a demonstrated need for agricultural use on parcels ~~between 2 and~~ less than 5 acres from the Contracting Officer.

Water Measurement

The No Action Alternative includes water measurement at every turnout or connection to measure CVP water deliveries. It is assumed that if other sources are commingled with the CVP water, including groundwater or other surface waters, the measurement devices would report gross water deliveries. Additional calculations would be required to determine the exact quantity of CVP water. However, if groundwater or other surface waters are delivered by other means to the users, the No Action Alternative does not include additional measurement devices, except as required by individual users' water conservation plans.

Water Conservation

The water conservation assumptions in the No Action Alternative include water conservation actions for municipal and on-farm uses assumed in the Department of Water Resources (DWR) Bulletin 160-93, and conservation plans completed under the 1982 RRA consistent with the criteria and requirements of the CVPIA. Such criteria address cost-effective Best Management Practices that are economical and appropriate, including measurement devices, pricing structures, demand management, public information, and financial incentives.

2.4.2 ALTERNATIVE 1

Alternative 1 is based upon the proposal presented by CVP water service Contractors to Reclamation in April 2000. However, there were several issues included in the April 2000 proposal that could not be included in Alternative 1 because they are not consistent with existing Federal or state requirements or would require a separate Federal action, as described below.

- The proposed alternative 1 includes Terms and Conditions to provide a highly reliable water supply, and provisions to improve the water supply capabilities of the CVP facilities and operations to meet this goal. *These issues were not included in Alternative 1 because these issues would require additional Federal actions with separate environmental documentation and also limit the Secretary's obligation to achieve a reasonable balance among competing demands as required by the CVPIA. Currently, Reclamation is completing the least cost plan to restore project yield in accordance with Section 3408(j) of CVPIA and under the CALFED program.*

- The proposed alternative 1 includes language to require renewal of contracts after 25 years upon request of the Contractor. *The study period for this EA is 25 years, which coincides with the contract period applicable to irrigation contracts and required by CVPIA. Renewal after 25 years would be a new Federal action and would require new environmental documentation.*

- The proposed alternative 1 does not include provisions for compliance with biological opinions. *Biological consultations are required by the Consultation and Coordination requirements established by Executive Order for all Reclamation activities. These are binding on Reclamation and provisions are needed to address this requirement.*

- The proposed alternative 1 included provisions for water transfers. *It is recognized that water transfers will continue and that the CVP long-term contracts will provide the mechanisms for the transfers. However, it would be difficult to identify all of the water transfer programs that could occur with CVP water in the next 25 years. Reclamation would ~~continue with~~ require separate environmental documents for transfers, and will establish criteria for rapid technical and environmental review of proposed transfers.*

- The proposed alternative 1 includes provisions for transfer of operations and maintenance requirements. *It is recognized that transfers of operation and maintenance to the group of Contractors will continue and that the CVP long-term contracts will provide the mechanisms for such transfers. However, it would be difficult to identify all of the operation and maintenance transfer programs that could occur with CVP water in the next 25 years. Reclamation would require separate environmental documents for such transfers.*

- The proposed alternative 1 includes provisions for resolution of disputes. *Assumptions for resolution of disputes were not included in Alternative 1 and at this time would not appear to affect environmental conditions.*

- The proposed alternative 1 includes provisions for expansion of the CVP service areas by the existing CVP water Contractors. *The study area for the long-term contract renewal process is defined by the existing service area boundaries. Expansion of the service area boundaries would be a new Federal action and would require separate environmental documentation.*

Alternative 1 includes several provisions that were different than the assumptions for No Action Alternative and those provisions are included in Alternative 1, as summarized in Table 2-1. The April 2000 proposal also included several provisions that involve specific language changes that would not significantly modify CVP operations in a manner that would affect the environment as compared to the No Action Alternative but could affect specific operations of a Contractor, as described in Table 2-1.

It should be noted that the tiered pricing requirements (including unit prices for CVP water) and definition of M&I users in Alternative 1 would be the same as in the No Action Alternative.

2.4.3 ALTERNATIVE 2

Alternative 2 is based upon the proposal presented by Reclamation to CVP water service Contractors in November 1999. However, there were several provisions included in the November 1999 proposal that are not included in Alternative 2. These provisions would constitute a separate Federal action, as described below.

- The November 1999 proposal included provisions for the Contractor to request approval from Reclamation for proposed water transfers. *Water transfers were not included in Alternative 2 because such actions cannot now be definitely described; they essentially constitute a separate Federal action and require separate environmental documentation.*

- The November 1999 proposal included provisions for transfer of operations and maintenance to third parties. *Operations and maintenance transfers were not included in Alternative 2 because these actions would be a separate Federal action and require separate environmental documentation.*

The November 1999 proposal included several provisions that were different than the assumptions for No Action Alternative and that are included in Alternative 2, as summarized below and in Table 2-1. The primary differences are related to tiered pricing and the definition of M&I users.

Tiered Water Pricing

Tiered water pricing under Alternative 2 is based upon a definition of "Category 1" and "Category 2" water supplies. "Category 1" is defined as the quantity of CVP water that is reasonably likely to be available for delivery to a Contractor and is calculated on an annual basis as the average quantity of delivered water during the most recent 5-year period. For the purposes of this Alternative, the "Category 1" water supply is defined as the "contract total" of CVP water. Category 2 is defined as that additional quantity of CVP water in excess of Category 1 water that may be delivered to a Contractor in some years. Under Alternative 2, the first 80 percent of the Category 1 volume would be priced at the applicable Contract Rate for the CVP. The next 10 percent of the Category 1 volume would be priced at a rate equal to the average between the Contract Rate and Full Cost Rate, as defined by Reclamation law and policy. The final 10 percent of the Category 1 volume would be priced at the Full Cost Rate as required by the CVPIA. All Category 2 water, when available, would be priced at Full Cost Rate. It should be noted that Category 1 and Category 2 volumes will change every year based upon the average deliveries for the "most recent 5 years," with limited exceptions based upon the findings of the water needs assessment. Alternative 2 assumes the sum of Category 1 and Category 2 water is equal to the maximum quantity included in the Contractors' existing water service contract. The quantity is the same as the No Action Alternative and Alternative 1. The terms "Contract Rate" and "Full Cost Rate" are discussed under Tiered Pricing for the No Action Alternative. The same Ability-to-Pay adjustments would be applicable to Restoration Payments and tiered water rates, as described in the No Action Alternative.

The prices of CVP water used in Alternative 2 are based upon irrigation and municipal/industrial CVP water rates presented in the November 17, 1999, Financial Workshop Handouts 1 and 2.

Definition of Municipal and Industrial Users

The definition of M&I water includes water for all tracts less than or equal to 5 acres, unless the Contracting Officer is satisfied that the use of such water meets the definition of "Irrigation Water."

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED

2.5.1 NONRENEWAL OF LONG-TERM CONTRACTS

Nonrenewal of existing contracts is considered infeasible based on Section 3404(c) of the CVPIA. This alternative was considered but eliminated from analysis in this EA because Reclamation has no discretion to not renew the contracts.

2.5.2 REDUCTION IN CONTRACT AMOUNTS

A reduction in contract amounts was considered in certain cases but rejected from analysis. The reason for this is two-fold. Water needs analyses have been completed for all contracts, and, in almost all cases the needs exceed or equal the current total contract amount. Secondly, in order to implement good water management, the Contractors need to be able to store or immediately use water available in wetter years when more water is available. By quantifying contract amounts in terms of the needs analyses and the CVP delivery capability, the Contractors can make their own economic decisions. Allowing the Contractors to retain the full water quantity gives the Contractors assurance that the water will be available to them for storage investments. In addition, the CVPIA, in and of itself, achieves a balance in part through its dedication of significant amounts of CVP water to environmental purposes, and actions to acquire water for these purposes.

2.6 SELECTION OF THE PROPOSED ACTION/PREFERRED ALTERNATIVE

~~It is anticipated that the~~ The final contract language represents a negotiated position between Alternatives 1 and 2. Therefore, ~~it is anticipated that the~~ any impacts ~~will be~~ are either equal to or less than those identified for Alternative 1, Alternative 2, or the No Action Alternative. Reclamation's proposed action is to renew to the long-term contracts representing the final negotiated position. This form of contract is provided as Appendix A.

2.7 SUMMARY OF THE IMPACT ASSESSMENT

Table 2-2 is a Summary of Impacts by Alternatives. The alternatives considered in this EA were analyzed to determine the potential for beneficial and adverse impacts associated with their implementation when compared to the continuation of the No Action Alternative conditions. (Recall that the No Action Alternative—which is the same as the CVPIA PEIS Preferred Action—assumes that most contract provisions would be similar to the provisions in the 1997 CVP Interim Renewal Contracts, which included contract terms and conditions consistent with applicable CVPIA requirements.)

TABLE 2-2
SUMMARY OF IMPACTS OF ALTERNATIVES

Resource	Description of Impact
NO ACTION ALTERNATIVE	
SOCIOECONOMICS (SECTION 4.3)	
Demographics	By 2030, Shasta County population would increase by more than 50 percent from 1999 levels. County ~~poplulatio~~ population is expected to change from 163,256 (2000) to 267,749 (2030), an increase of 64%.
M & I Water Costs, Land Use and Economics	Based on 1994 dollars, Contractors would pay approximately $1.1 million in contract year 25 (2029) for untreated CVP M&I water during average year hydrologic conditions following five dry years.
Agricultural Water Costs, Land Use and Economics	Unlike the assessment of M&I water cost impacts, the agricultural water cost assessment is based on 1999 rates since the PEIS agricultural economic analysis was updated to 1999. Agricultural water for the Divisions is used by BVWD and CCC~~W~~SD. BVWD irrigators are projected to use over two times more CVP water on 25% more land as CCC~~W~~SD irrigators. This disparity is explained by the fact that a greater portion of BVWD's cropping pattern is projected to be in pasture, a water intensive crop. For BVWD, during average conditions, the gross value of production in contract year 25 (2029) would be $1.95 million. Crop water use would be 13,500 acre-feet per year, and 5,960 acres would be irrigated based on 1999 dollars. For CCC~~W~~SD, during average conditions, the gross value of production in contract year 25 (2029) would be $4.58 million. Crop water use would be 5,800 acre-feet per year, and 4,690 acres would be irrigated based on 1999 dollars.
Regional Economy	For the contract year 25 (2029) in Shasta County, the estimated output for standard industrial sectors would be $4,742 million. Full-time equivalent employment would be 71,579 jobs, and total income would be $2,695 million.
LAND USE (SECTION 4.4)	Indirect effects could occur to agricultural uses due to rewording that would provide M&I water service to irrigated land less than or equal to 5 acres unless the Contracting Officer is satisfied the use is for irrigation. For BVWD, irrigated acreage would increase to 5,960 acres during average hydrologic year conditions and to 5,890 acres for dry hydrologic conditions. For CCC~~W~~SD, the irrigated acreage would increase to 4,690 acres and 4,640 acres for the average and dry hydrologic conditions, respectively.
BIOLOGICAL RESOURCES (SECTION 4.5)	Indirect effects to biological resources could occur as a result of changes to land use under the No Action Alternative.
ENVIRONMENTAL JUSTICE (SECTION 4.6)	No disproportionate effect on minority populations or low-income populations is anticipated.
INDIAN TRUST ASSETS (SECTION 4.7)	No Indian Trust Assets are known to occur within water service areas. Therefore, no Indian Trust assets would be adversely affected by the No Action Alternative
CULTURAL RESOURCES (SECTION 4.8)	Indirect effects to cultural resources could occur due to planned growth and development, or changes in land use from agricultural uses to suburban/urban uses, or suburban uses to agricultural uses. Changes in land use could affect known and undiscovered cultural resources. However, both federal and state jurisdictions provide programs to protect cultural resources and are responsible for implementing these programs.

TABLE 2-2
SUMMARY OF IMPACTS OF ALTERNATIVES

Resource	Description of Impact
ALTERNATIVE 1	
SOCIOECONOMICS (SECTION 4.3)	
Demographics	Same as the No Action Alternative
M & I Water Costs, Land Use and Economics	Same as the No Action Alternative
Agricultural Water Costs, Land Use and Economics	Alternative 1 is expected to have effects on agricultural water costs and associated land and water use, gross value of production, and farm net revenues for the affected water districts similar to the No Action Alternative. Therefore, there are no environmental impacts from this alternative.
Regional Economy	Same as the No Action Alternative
LAND USE (SECTION 4.4)	Same as the No Action Alternative
BIOLOGICAL RESOURCES (SECTION 4.5)	Similar direct and indirect effects as the No Action Alternative.
ENVIRONMENTAL JUSTICE (SECTION 4.6)	No incremental adverse effects
INDIAN TRUST ASSETS (SECTION 4.7)	No adverse impacts. Same as the No Action Alternative.
CULTURAL RESOURCES (SECTION 4.8)	No incremental environmental effects
ALTERNATIVE 2	
SOCIOECONOMICS (SECTION 4.3)	
Demographics	Same as the No Action Alternative.
M & I Water Costs, Land Use and Economics	The incremental effect would be that the Contractors would pay approximately $1.8 million more than under the No Action Alternative in contract year 25 (2029) for untreated CVP M&I water during the average year hydrologic conditions.
Agricultural Water Costs, Land Use and Economics	Alternative 2 would cause BVWD agricultural water cost-of-service rate to increase by about 45% from the No-Action level. Implementation of Alternative 2 could cause as many as 800 acres of irrigated pastureland to be fallowed in the BWVD during projected year 2029 during average hydrologic conditions (and even more, 1160

TABLE 2-2
SUMMARY OF IMPACTS OF ALTERNATIVES

Resource	Description of Impact
	acres, under dry hydrologic conditions). The analyses indicate that in contract year 25 (2029) under average hydrologic conditions, BVWD farmers may reduce their use of CVP agricultural water by as much as 7,550 acre-feet, or more than half their 13,500 acre-feet of projected use under the No-Action Alternative. The fallowing of land and reduction of applied water on lands that remain under irrigation due to Alternative 2 could reduce the annual gross value of agricultural production within the BVWD by approximately 6% (or $120,000 in 1999 dollars) and the net income realized by farmers by as much as $130,000 in 1999 dollars under average hydrologic conditions. In a dry year, the decline in gross production value and net revenue impacts could be $180,000 and $260,000, respectively (in 1999 dollars). Under Alternative 2, CCCSD agricultural cost-of-service water rates would increase by about 20% and would be much lower than the impact on its CVP M&I cost-of-service water rates previously discussed. Under Alternative 2, as many as 510 acres of CCCSD projected contract year 25 (2029) irrigated pastureland would be fallowed during a year of average hydrologic conditions (and 740 acres even under dry hydrologic conditions). In the year 2029, assuming average hydrologic conditions, CCCSD farmers may reduce their use of CVP agricultural water by as much as 3,250 acre-feet. The fallowing of land and reduction of applied water on lands that remain under irrigation due to Alternative 2 could reduce the annual gross value of agricultural production within CCCSD by approximately 2% (or $80,000 in 1999 dollars). In a dry year, the decline in gross production value and net revenue impacts could be $120,000 and $140,000, respectively (in 1999 dollars).
Regional Economics	The County's industrial output could decrease by as much as $3.3 million (0.07%) when compared to the No Action Alternative. The County economy could decline from the No Action Alternative by as many as 46 jobs (less than 1%), and the regional income by place of work could decrease by almost $1.9 million dollars (0.07%) from the No Action Alternative.
LAND USE (SECTION 4.4)	Indirect effects would occur. The incremental effect for BVWD would be the increased fallowing of about 800 acres in contract year 25 (2029) under average conditions and 1,160 acres under dry conditions. The incremental effect for CCC~~W~~SD would be the increased fallowing of about 510 acres in contract year 25 (2029) under average conditions and 740 acres under dry conditions.
BIOLOGICAL RESOURCES (SECTION 4.5)	Variable indirect effects would occur that could be beneficial or adverse, depending on the specific parcels, habitats, and species affected.
ENVIRONMENTAL JUSTICE (SECTION 4.6)	No incremental adverse effects.
INDIAN TRUST ASSETS (SECTION 4.7)	No incremental adverse effects. Same as the No Action Alternative.
CULTURAL RESOURCES (SECTION 4.8)	No incremental environmental effects.
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES (SECTION 4.9)	There is no commitment of nonrenewable resources, and the proposed action does not commit future generations to permanent use of natural resources.
RELATIONSHIP BETWEEN SHORT-TERM USE AND LONG TERM PRODUCTIVITY (SECTION 4.10)	Long-term productivity would be enhanced through the water supply that sustains agricultural economics, social benefits, and the long-term productivity of urban and rural populations by providing CVP water.